TOSHIBA

This product specification is variable and subject to change prior to product launch.

Satellite M645 Detailed Product Specification[1]

Model Name: M645-S4116X	Part Number: PSMPDU-007001	UPC: 883974691104

Operating System C1 2

- Genuine Windows® 7 Home Premium 64-bit

Processor[3] and Graphics[4]

- Intel® Core™ i5-2410M Processor
  - 2.3 GHz (2.9 GHz with Turbo Boost Technology), 3MB Cache
- Mobile Intel® HM65 Express Chipset
- Mobile Intel® HD graphics with 64MB-1696MB dynamically allocated shared graphics memory

Memory[5]

- Configured with 6GB DDR3-1333 (max 8GB)
- 2 memory slots. Both slots occupied

Storage Drive[6]

- 500GB (5400 RPM); Serial ATA hard disk drive
- TOSHIBA Hard Drive Impact Sensor (3D sensor)

Fixed Optical Disk Drive[7]

- DVD SuperMulti drive with Labelflash® supporting 11 formats
  - Maximum speed and compatibility: CD-ROM (24x), CD-R (24x), CD-RW (24x), DVD-ROM (8x), DVD-R (8x), DVD-R DL (6x), DVD-RW (8x), DVD+R (8x), DVD+R DL (6x), DVD+RW (8x), DVD-RAM (5x)
  - Uses Labelflash® media to burn high quality labels directly to disc

Display[8]

- 14.0" diagonal widescreen TruBrite® TFT display at 1366 x 768 native resolution (HD)
  - Native support for 720p content
  - 16:9 aspect ratio
  - LED backlit
- Intel® Wireless Display Technology

Sound

- Built-in harman/kardon® stereo speakers
- DOLBY® Advanced Audio™

Input Devices

- Premium Raised Tile Keyboard (black)
- Touch pad pointing device with multi-touch control
- Touch pad Enable/Disable
- Media Control Buttons:
  - TOSHIBA eco utility™ (Energy-saving mode)
  - Wireless On/Off
  - Illumination On/Off
  - CD/DVD control buttons
  - Mute
  - Volume up
  - Volume down

Communications

- Webcam and microphone
- 10/100 Ethernet
- Intel® Wi-Fi® Wireless networking (802.11b/g/n + Wi-Di Capable)[9]

Expandability

- ExpressCard™ slot
- Memory Card Reader
  - Secure Digital, Secure Digital High Capacity, Memory Stick™, Memory Stick PRO™, xD Picture Card, Mini SD Card, SDXC, Multi Media Card [shared slot, adapter may be required]

Ports

- Video
  - RGB
  - HDMI
- Audio
  - Microphone input port with Toshiba Sleep and Music[10]
  - Headphone output port
- Data
  - 3 USB ports(1 USB v3.0 port with USB Sleep and Charge[11]+ 2 USB v2.0 ports
  - RJ-45 LAN port
- Security
  - Slot for security lock

Physical Description

- Fusion® X2 Finish in Charcoal
- Dimensions (W x D x H Front/H Rear): 13.3" x 9.0" x 1.12"/1.39" with feet
- Weight: Starting at 5.4 lbs. depending upon configuration [12]

Power

- 65W (19V 3.42A) 100-240V/50-60Hz AC Adapter.
  - Dimensions (W x H x D): 4.21" x 1.85" x 1.20"
  - Weight: starting at 0.55 lbs.

Battery[13]

- 6 cell/48Wh Lithium Ion battery pack
- Battery Life Rating (measured by MobileMark™ Productivity 2007)
  Included 6 cell battery: 5 hours, 39 minutes

Software C1 14

- Toshiba Software and Utilities
  - TOSHIBA App Place℠
  - TOSHIBA Assist
  - TOSHIBA BookPlace™
  - TOSHIBA Bulletin Board
  - TOSHIBA Disc Creator
  - TOSHIBA DVD Player with Resolution+ Upconvert Technology[15]
  - TOSHIBA eco Utility™
  - TOSHIBA Face Recognition
  - TOSHIBA HDD/SSD Alert
  - TOSHIBA HW Setup Utility
  - TOSHIBA Laptop Checkup
  - TOSHIBA Media Controller[16]
  - TOSHIBA Password Utility
  - TOSHIBA PC Health Monitor
  - TOSHIBA Recovery Disc Creator
  - TOSHIBA ReelTime
  - TOSHIBA Service Station
  - TOSHIBA Sleep Utility
  - TOSHIBA Supervisor Password Utility
  - TOSHIBA Value Added Package
  - TOSHIBA Web Camera Application
- Third-party Software
  - Adobe® Acrobat® Reader
  - Corel Label@Once
  - Intel® Wireless Display Technology
  - Google® Toolbar
  - Google® Chrome
  - Internet Explorer 8
  - Microsoft® Office Starter 2010[17]
  - Microsoft® Windows Media Player 12
  - Microsoft® Silverlight™
  - Microsoft® Live Essentials
    - Photo Gallery
    - Messenger
    - Mail
    - Writer
    - Movie Maker
  - WildTangent® Games Console
- Special Offers and Trial Software
  - KidZui™, The Internet for Kids
  - NetZero® Internet Service
  - Norton Internet Security™ 2011 (30-day trial subscription)
  - Skype®
  - Toshiba Online Backup (30-day trial subscription)

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Environmental Specifications

- This product is RoHS[18] compatible
- Energy Star Qualified
- EPEAT™ Gold Compliant

	Operating	Non-operating
Temperature[19]	5° to 35° C	-20° to 60° C
Thermal Gradient	15° C per hour (max)	20° C per hour
Relative Humidity (non-condensing)	20% to 80%	10% to 90%
Altitude (relative to sea level)	0 to 3,000 metres	0 to 10,000 metres
Shock	10G	60G
Vibration	0.5G	1.0G

1 YEAR STANDARD LIMITED WARRANTY[20]

- Includes International Limited Warranty for obtaining service when traveling outside the United States.

Service Upgrades and Extensions

Toshiba offers many different enhanced services such as SystemGuard®, On-Site Repair, and ServiceExpress to provide additional support to your notebook PC. For a full description and complete list of programs and program terms and conditions, please visit www.pcsupport.toshiba.com.

Accessories

For additional and most updated accessories, please visit www.accessories.toshiba.com

Memory Upgrade

Part Number	Description
PA3676U-1M2G	Toshiba 2GB DDR3-1066 memory module
PA3677U-1M4G	Toshiba 4GB DDR3-1066 memory module

Power

Part Number	Description
PA3717U-1ACA	Toshiba 120W Global AC Adapter
PA3818U-1BRS	Toshiba Primary Li Ion Battery Pack(6 cell)
PA3819U-1BRS	Toshiba Primary High Capacity Li Ion Battery Pack (12 cell)

Expansion

Part Number	Description
PA3778U-1PRP	dynadock V USB Docking Station with DVI/VGA port
PA3575U-1PRP	dynadock U USB Docking Station with DVI/VGA port
PA3686U-1SET	dynadock Wireless U Docking Station with Wireless USB Adapter

Bluetooth

Part Number	Description
PA3710U-1BTM	Toshiba Bluetooth 2.1+EDR USB Nano Adapter

Storage

Part Number	Description
PA3877U-1M8B	Toshiba 8GB Hi-Speed USB Swivel-Retractable Flash Drive
PA3877U-1MAB	Toshiba 16GB Hi-Speed USB Swivel-Retractable Flash Drive
PA3877U-1MBB	Toshiba 32GB Hi-Speed USB Swivel-Retractable Flash Drive
E05A050CAU2XY	Toshiba 500GB USB 2.0 Port Hard Drive, Stain Silver
E05A075CAU2XK	Toshiba 750GB USB 2.0 Port Hard Drive, Raven Black
E05A100PBU3XW	Toshiba 1TB USB 3.0 Canvio 3.0 Plus Portable Hard Drive, Black with White Accents

Carrying Case

Part Number	Description
PA1445U-1CS4	Toshiba 14" Envoy Ballistic Polyester Carrying Case (Fits up to 14.1")
PA1457U-1CL4	Toshiba 14" Envoy Leather Carrying Case (Fits up to 14.1")
PA1503U-1SL3	Toshiba14" Extreme Sling BackPack (Fits up to 14.1")

Subject to Change

While Toshiba has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications, configurations, prices, system/component/options availability are all subject to change without notice. For the most up-to-date product information about your computer, or to stay current with the various computer software or hardware options, visit Toshiba's Web site at http://www.pcsupport.toshiba.com

Return Policy

Notwithstanding anything to the contrary in any third party License Agreement or product documentation supplied with your PC, Toshiba America Information Systems, Inc. ("TAIS") does not accept the return of component parts, or bundled software, that have been removed from the PC system. Pro-rata refunds on individual PC components or bundled software, including the operating system, will not be granted. If you wish to return a complete PC system, contact the TAIS dealer where you purchased the product, and comply with the dealer's standard return policies and procedures.

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[C1] ***64-bit computing:***

64-bit computing requires that the following hardware and software requirements are met:

- 64-bit Operating System
- 64-bit CPU, Chipset and BIOS (Basic Input/Output System)
- 64-bit Device drivers
- 64-bit applications

Certain device drivers and/or applications may not be compatible with a 64-bit CPU and therefore may not function properly. See "Detailed Specs" for more information.

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[1] **Product Series Legal Footnote**. The product specifications and configuration information are designed for a product Series. Your particular model may not have all the features and specifications listed or illustrated. For more detailed information about the features and specifications on your particular model, please visit Toshiba's Web site at pcsupport.toshiba.com.

Product Offering Legal Footnote. Toshiba America Information Systems, Inc. reserves the right to modify or withdraw this offer at anytime without notice

[2] **Operating System**.

Also see ***64-Bit Computing*** Legal Footnote, if applicable.

Certain Microsoft® software product(s) included with this computer may use technological measures for copy protection. IN SUCH EVENT, YOU WILL NOT BE ABLE TO USE THE PRODUCT IF YOU DO NOT FULLY COMPLY WITH THE PRODUCT ACTIVATION PROCEDURES. Product activation procedures and Microsoft's privacy policy will be detailed during initial launch of the product, or upon certain reinstallations of the software product(s) or reconfigurations of the computer, and may be completed by Internet or telephone (toll charges may apply).

Some software may differ from its retail version (if available), and may not include user manuals or all program functionality.

Offers. Offer terms, duration and product availability all subject to change without notice

[3] **Processor (Central Processing Unit)**. Also see ***64-Bit Computing*** Legal Footnote, if applicable.

CPU performance in your computer product may vary from specifications under the following conditions:

1. use of certain external peripheral products
2. use of battery power instead of AC power
3. use of certain multimedia, computer generated graphics or video applications
4. use of standard telephone lines or low speed network connections
5. use of complex modeling software, such as high end computer aided design applications
6. use of several applications or functionalities simultaneously
7. use of computer in areas with low air pressure (high altitude >1,000 meters or >3,280 feet above sea level)
8. use of computer at temperatures outside the range of 5°C to 30°C (41°F to 86° F) or >25°C (77°F) at high altitude (all temperature references are approximate and may vary depending on the specific computer model – please visit the Toshiba website at www.pcsupport.toshiba.com for details).

CPU performance may also vary from specifications due to design configuration.

Under some conditions, your computer product may automatically shut-down. This is a normal protective feature designed to reduce the risk of lost data or damage to the product when used outside recommended conditions. To avoid risk of lost data, always make back-up copies of data by periodically storing it on an external storage medium. Use your computer product only under recommended conditions. Read additional restrictions under "Environmental Conditions" in your product "Detailed Specs." Contact Toshiba Technical Service and Support for more information.

[4] **Graphics (Graphics Processing Unit)**. GPU performance may vary depending on product model, design configuration, applications, power management settings and features utilized. GPU performance is only optimized when operating in AC power mode and may decrease considerably when operating in battery power mode.

Total Available Graphics Memory is the total of, as applicable, Dedicated Video Memory, System Video Memory and Shared System Memory. Shared System Memory will vary depending on system memory size and other factors.

[5] **Memory (Main System)**. Part of the main system memory may be used by the graphics system for graphics performance and therefore reduce the amount of main system memory available for other computing activities. The amount of main system memory allocated to support graphics may vary depending on the graphics system, applications utilized, system memory size and other factors. Computers configured with a 32-bit operating system can address up to 3GB of system memory. Only computers configured with a 64-bit operating system can address 4 GB or more of system memory.

[6] **Storage Drive**
Computer (Internal) HDD Capacity. One Gigabyte (GB) means 10^9 = 1,000,000,000 bytes using powers of 10. The computer operating system, however, reports storage capacity using powers of 2 for the definition of 1 GB = 2^{30} = 1,073,741,824 bytes, and therefore shows less storage capacity. Available storage capacity will also be less if the computer includes one or more pre-installed operating systems, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

[7] **Optical Drive**. Due to manufacturing and quality variations in third party optical media (e.g., CD or DVD) or optical media players/recorders, in certain cases, your Toshiba optical drive may not record on certain optical media that bear the applicable logo, or playback optical media recorded by other PCs or optical media recorders. Additionally, certain optical media recorded on your optical drive may not playback or operate properly on other PCs or optical media players. These problems are not due to any defect in your Toshiba PC or optical drive. Please refer to your PC's product specification for listing of specific format compatibilities.

Recording or viewing of certain optical media may be limited or prevented in accordance with applicable copy protection standards.

[8] **Display**. Small bright dots may appear on your screen display when you turn on your PC. Your display contains an extremely large number of thin-film transistors (TFT) and is manufactured using high-precision technology. Any small bright dots that may appear on your display are an intrinsic characteristic of the TFT manufacturing technology. Over a period of time, and depending on the usage of the computer, the brightness of the screen will deteriorate. This is also an intrinsic characteristic of the screen technology. When the computer is operated on battery power, the screen with dim and you may not be able to increase the brightness of the screen while on battery power.

[9] **Wireless-N.** The wireless adapter is based on a draft release version of the IEEE 802.11n specification, and may not be compatible with, or support all features (e.g., security) of, certain Wi-Fi® equipment**.**

[10] ***Sleep & Music*:** In this mode, the headphone jack and mute functions are disabled. The volume and sound quality will diminish as the speakers not tuned in Windows® mode. Use the volume control on your audio device to adjust sound. Audio line-in cable is not included

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[11] **USB Sleep & Charge.** The "USB Sleep & Charge function" may not work with certain external devices even if they are compliant with the USB specification. In those cases, turn the power of the computer ON to charge the device.

[12] **Weight**. Weight may vary depending on product configuration, vendor components, manufacturing variability and options selected.

[13] **Battery Life Rating**. Measured by MobileMark® 2007. MobileMark is a trademark of the Business Applications Performance Corporation. Rating based on either MobileMark Productivity 2007 modeling a user performing common mobile office activities or Reader 2007 modeling a user reading documents. See "Detailed Specifications" for test used.

Details of MobileMark 2007 testing are available at www.bapco.com

Rating is for comparison purposes only, and does not indicate the battery life that will be obtained by any individual user. Actual battery life may vary considerably from specifications depending on product model, configuration, applications, power management settings and features utilized, as well as the natural performance variations produced by the design of individual components. The battery life rating is only achieved on the select models and configurations tested by Toshiba under the specific test settings at the time of publication and is not an estimate of a system's battery life under any conditions other than the specific test settings.

After a period of time, the battery will lose its ability to perform at maximum capacity and will need to be replaced. This is normal for all batteries.

[14] **Software**. Some software may differ from its retail version (if available), and may not include user manuals or all program functionality.

Certain Microsoft® software products (including Microsoft Office Small Business Accounting if applicable) included with this computer may use technological measures for copy protection. IN SUCH EVENT, YOU WILL NOT BE ABLE TO USE THE PRODUCT IF YOU DO NOT FULLY COMPLY WITH THE PRODUCT ACTIVATION PROCEDURES. Product activation procedures and Microsoft's privacy policy will be detailed during initial launch of the product, or upon certain reinstallations of the software products or reconfigurations of the computer, and may be completed by Internet or telephone (toll charges may apply).

Internet access is required to enable certain functionality of certain Microsoft products(including Microsoft Office Small Business Accounting 2006) which may be included with this computer.

Includes Microsoft® Office 2010 preloaded. Purchase a Product Key to activate a full Microsoft Office 2010 suite.

[15] **Resolution+™ Technology (Upconvert/Upconversion Technology).** Viewing enhancements may vary depending upon content quality and display device capability/functionality/settings. Depending on the quality of the content, some video noise may be visible.

[16] **Toshiba Media Controller.** Copy protection technology, if any, associated with the content may prevent or limit sharing of content.

[17] **Microsoft Office Starter 2010.** Includes Microsoft® Office 2010 preloaded. Purchase a Product Key to activate a full Microsoft Office 2010 suite.

[18] **RoHS.** This notebook is compatible with European Union Directive 2002/95/EC, Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS), which restricts use of lead, cadmium, mercury, hexavalent chromium, PBB, and PBDE. Toshiba requires its notebook component suppliers to meet RoHS requirements and verifies its suppliers' commitment to meeting RoHS requirements by conducting component sampling inspections during the product design approval process.

[19] **Temperature (Environmental) Conditions**. All temperature references are approximate and the performance of your computer may vary from specifications even when operating within the recommended temperature range.

[20] **Warranty:** The terms and conditions of Toshiba's standard limited warranty are available at www.warranty.toshiba.com.

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